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## Think Pair Share Effect of Understanding the Concept and Achievement

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### ABSTRACT

Think Pair Share is a cooperative learning method that gives students time to think and respond and help each other, by which time the thought be a powerful factor in improving students' ability to respond to questions. The research objective was to determine the difference model Think Pair Share on achievement and understanding of concepts in student learning; and relationships with the understanding of the concept of learning achievement. Data were collected using tests, observations, and analyzed statistically and descriptive. The results showed there is difference between the concept of understanding the experimental class and control class; There is difference in achievement between the experimental class and control; there is a relationship between the understanding of the concept of learning with the achievement of the experimental class.

**Keywords:** Think Pair Share, understanding of the concept, achievement

## 1 INTRODUCTION

Engineering mechanics is a science major who studied in engineering sciences building. The main staple of science is to study the structural behavior of the loads acting on it. The behavior of these structures generally are deflections and styles. The behavior of the structure consists of stability, balance and compatibility between deformation styles and deflection types. By knowing the forces and deflections that happens then the structure can be planned based on the dimensions of the material used, so safe and comfortable in accepting the load.

From the observation a few years earlier, the learning process of engineering mechanics are done conventionally obtained that student learning difficulties in understanding concepts of engineering mechanics, so this greatly affect student achievement.

Understanding is the uptake of a material being studied. In the Dictionary of Indonesian Language, understanding means understanding correctly, while the concept means a draft.

The learning achievement is the results achieved by someone after he made the change to learn, both at school and outside of school. In the Webster's New International Dictionary reveals about the achievements, namely: "Achievement test a standardized test for measuring the skill or knowledge by the person in one more lines of work a study" (Webster's New International Dictionary, 1951: 20).

The learning achievement in education is the result of the measurement of learners that includes factors of cognitive, affective and psychomotor after the learning process is measured using a test instrument or instruments that are relevant. So learning achievement is the result of measurement of learning the business assessment expressed in the form of symbols, letters or words that tell the results already achieved by each child in a given period. The learning achievement is the result of the measurement of

learners that includes factors of cognitive, affective and psychomotor after the learning process is measured using a test instrument relevant.

In studying engineering mechanics, understanding the concept is very important for the students because the concept of engineering mechanics with each other so closely related to learn to be coherent and sustainable. If the student has understood concepts will facilitate the mechanics techniques in studying the concepts of the next more complex.

In order for the students' ability to understand the concept of engineering mechanics can be further developed, then given training provided to load indicator understanding of the concept of mechanics. The ability of understanding the concept of mechanics is one determinant of learning objectives mechanics. If the students can understand the concepts very well, it is expected that students are able to master the ability of reasoning, problem solving and communication.

One learner to do is cooperative learning Think Pair Share. The steps of cooperative learning Think Pair Share is Thingking, Pairing, and Sharing. Their stage of students presented their work and other students to respond to the results of his work can train students to express ideas. This learning model emphasizes that students can develop the potential of actively by creating groups of two people who will create the optimal interaction patterns, develop team spirit, motivation and fostering the emergence of effective communication. Through cooperative learning Think Pair Share students can actively express itself in the classroom.

The results obtained from the application of methods think pair share, among others; The results obtained from the application of methods think pair share, among others; The implementation of cooperative learning model TPS can improve learning activities and is also associated with achievement with academic achievement (Rudiyanto, O. S., at all, 2013).

Overall cooperative models use Think Pair Share can improve mathematical problem solving and mathematical communication skills of students (Husna, at all, 2013).

TPS learning model can be used as an alternative learning model to improve science learning achievement (Surayya, at all, 2014).

Inductive-deductive approach collaborated with think pair share method is more effective than the expository teaching of the students' learning activeness (Widiyaningsih. A, 2012).

The effect of think pair share teaching strategy to students' self-confidence and students' speaking competency there was significance (Permadi Marhaeni, at al, 2013).

The use of guided discovery and think-pair-share strategies had great potential for improving achievement in chemistry and science learning generally (Bamiro, 2015).

The quantity and quality of student engagement in a large CSI class during the implementation of TPS activities, That students report being highly engaged for 62% during Think phase and 70% during Pair phase (Kothiyal. A, et al, 2013).

Based on the description above, this study aims to improve the quality of teaching of engineering mechanics using Pear Think Share by looking at the differences in understanding of the concept and achievements of the experimental class with a grade control; Relations with the understanding of the concept of achievement.

## 2 METHODS

This study is a quasi-experimental research. This study was conducted to compare the understanding of the concept and achievements in the course of engineering mechanics between cooperative learning Think Pair Share with conventional learning. This research was conducted using samples of two classes, namely the experimental class and control class. In the experimental group were given treatment of the application of cooperative learning Think Pair Share, whereas the control class applied to conventional learning. The design of the study is a Randomized Control Group Only Design. The independent variables in this study are learning to use the polling method, while the dependent variable in this research is the understanding of the concept and student achievement. The population in this study are engineering students building years 2014-2015, as many as 67 students, divided into two classes. The sample in this study 67 students, divided into two classes, namely the experimental class with 35 students and the control class with 32 students. Data collection techniques include providing post test to determine students' understanding of concepts and achievement. Data analysis techniques in this study using a test independent sample t-test, which previously performed the prerequisite test that normality and homogeneity test to analyze the results of the post test.

## 3 RESULTS AND DISCUSSIONS

### 3.1 Understanding the concept of Student Learning

Hypothesis test students' understanding of the concept which is done by using independent sample t test showed that the significance of test results sample t test  $0.00 < 0.05$  which have the idea  $H_0$  rejected and  $H_a$  accepted, so it can be said that the students' understanding of the concept of the use of the application cooperative learning model TPS is difference with conventional learning. The average value of 74.9 experimental class, grade control was 46.8. Based on the results of the average value of the class, the experimental class that uses the application of cooperative learning model TPS is better than the control class that uses the application of conventional learning models.

Hypothesis test students' understanding of the concept shows that the understanding of the concept of learning students who use the application of cooperative learning model TPS is no difference with conventional learning. Based on analysis of the experimental class that uses the application of cooperative learning model TPS is better than the control class that uses the application of conventional learning models. Seen from the average value of the experimental class is higher than the control class.

Understanding the concept of learning in the experimental class is higher due to greatly ease the learning process of students to absorb teaching materials, among other things: the first stage students independently thinking to solve the problem; The second phase of the students created collaborative, with the aim to work together, discuss and solve problems together. Here the process affect the absorption of the material because the couple is certainly going exchange of knowledge; The third stage with their presentation and communication skills will enhance the understanding expressed in the wider group, so there is a positive shift in aspects of oral language and attitude. (Azlina, 2010)

### 3.2 Student achievement

Hypothesis testing student achievement test conducted by test independent sample t test showed that the significant value of  $0.00 < 0.05$  which have the idea  $H_0$  rejected and  $H_a$  accepted, so it can be said that student achievement cooperative learning model TPS no difference to achievement students' conventional learning models. The average value of 54.5 experimental class, grade control was 41.0. Based on the results of the average value of the class, the experimental class that uses the application of cooperative learning model TPS is better than the control class that uses the application of conventional learning models.

Hypothesis testing student achievement shows that student achievement that learned cooperative learning model TPS is different with student achievement that learned conventional learning models. Seen from the average value of the experimental class is higher than the control class. This can happen because the process pembelajaran repeated, that of self-learning, group learning and followed a presentation or explain a result of learning the appropriate level of cognitive theory says Bloom.

### **3.3 The relationship between the understanding of the concept of Learning by Student Achievement.**

Hypothesis test uses correlation to determine the relationship between the understanding of the concept of learning with student achievement in the experimental class. Retrieved  $p = 0.000$  and  $r = 0.849$ , It proves that there is a significant relationship between the understanding of learning with student achievement.

Test latter hypothesis about the relationship between the understanding of learning with student achievement shows that there is a significant relationship between the understanding of the concept of learning with student achievement.

## **4 CONCLUSIONS**

From the discussion, it can be concluded that (1) There is a different understanding of the concept of the third semester student learning in engineering mechanics materi between classes with the implementation of cooperative learning model Think Pair Share (TPS) with conventional teaching; (2) There is a difference in the third semester student achievement in materials engineering mechanics between classes with the implementation of cooperative learning model Think Pair Share (TPS) with conventional teaching; (3) There is a relationship between the understanding of the concept of learning with learning outcomes of students in the experimental class.

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